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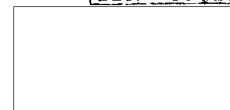
Westinghouse

ELECTRIC CORPORATION



AIR ARM DIVISION

SAPC 24529
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PHONE: LINTHICUM 1000
FRIENDSHIP INT'L AIRPORT
BOX 746, BALTIMORE 3, MD.

13 February 1958



TA P Sec
TA-3034

SUBJECT: Contract TA-3034
Westinghouse Reference AAD-30465
Monthly Progress Report #8

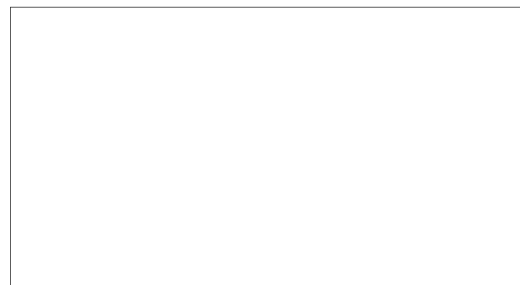
25X1

In accordance with Item 3 of the subject contract, forwarded herewith are three (3) copies of Monthly Progress Report #8 on the Terrain Avoidance Radar System for the period from 31 December 1957 to 31 January 1958.

2 copies sent
to
TAC/ARDO



Sales Engineer



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YOU CAN BE SURE... IF IT'S Westinghouse

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MONTHLY PROGRESS REPORT #8

on the

TERRAIN AVOIDANCE RADAR SYSTEM

For the period from

31 December 1957 to 31 JANUARY 1958

G.O. AAD-30465

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WESTINGHOUSE ELECTRIC CORPORATION

Air Arm Division

P.O. Box 746

Baltimore 3, Maryland

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February 5, 1958

MONTHLY PROGRESS REPORT #8TERRAIN AVOIDANCE RADAR SYSTEMPROGRESS FOR THE MONTH OF JANUARY 1958

Bench testing of all the breadboard units except the antenna has been completed. A breadboard system is being assembled in the roof lab. A borrowed antenna which scans vertically only will be used until the first model of the antenna becomes available. Profiles of the terrain surrounding the plant can be painted.

Drafting is nearing completion on all units except the antenna. Most detail and assembly drawings on all units have been released to the Model Shop.

Construction of the units in the Model Shop is progressing. The pre-amp and post-amp have been completed. The AFC and modulator are complete except for one missing component each. Construction of the "E" scope is about 75% complete. The "X" Scope, Synchronizer, Power Supply, Control Panel and R-T Unit are in earlier stages of construction. The R-T Unit shows on the chart as further advanced due to the inclusion of the AFC and pre-amp which are assembled as part of the R-T unit.

Bench testing of the Pre-amp and Post-amp is complete. These are the only units received from the Model Shop.

Antenna

The one degree model of the rotary feed horn, complete except for the pill-box to direct the energy to the reflector has been assembled and tested. It consists of the high-speed rotary joint, the feed cone and the parallel plate horn with a straight backwall. The tests were satisfactory except that the beamwidth is nearer 1.5 degrees. The scan sector is about 38 degrees instead of the desired 30°. The scan sector can be controlled by using the proper cone angle. A separate parallel plate feed horn with a curved backwall for beamshaping has been built and is undergoing tests. This will eliminate the need for a curved backwall in the pillbox. This performs satisfactorily and will be incorporated in the final model.

A parallel plate horn with a curved back wall must be built for the 2° antenna to determine the cone angle required to achieve the desired 30° scan sector.

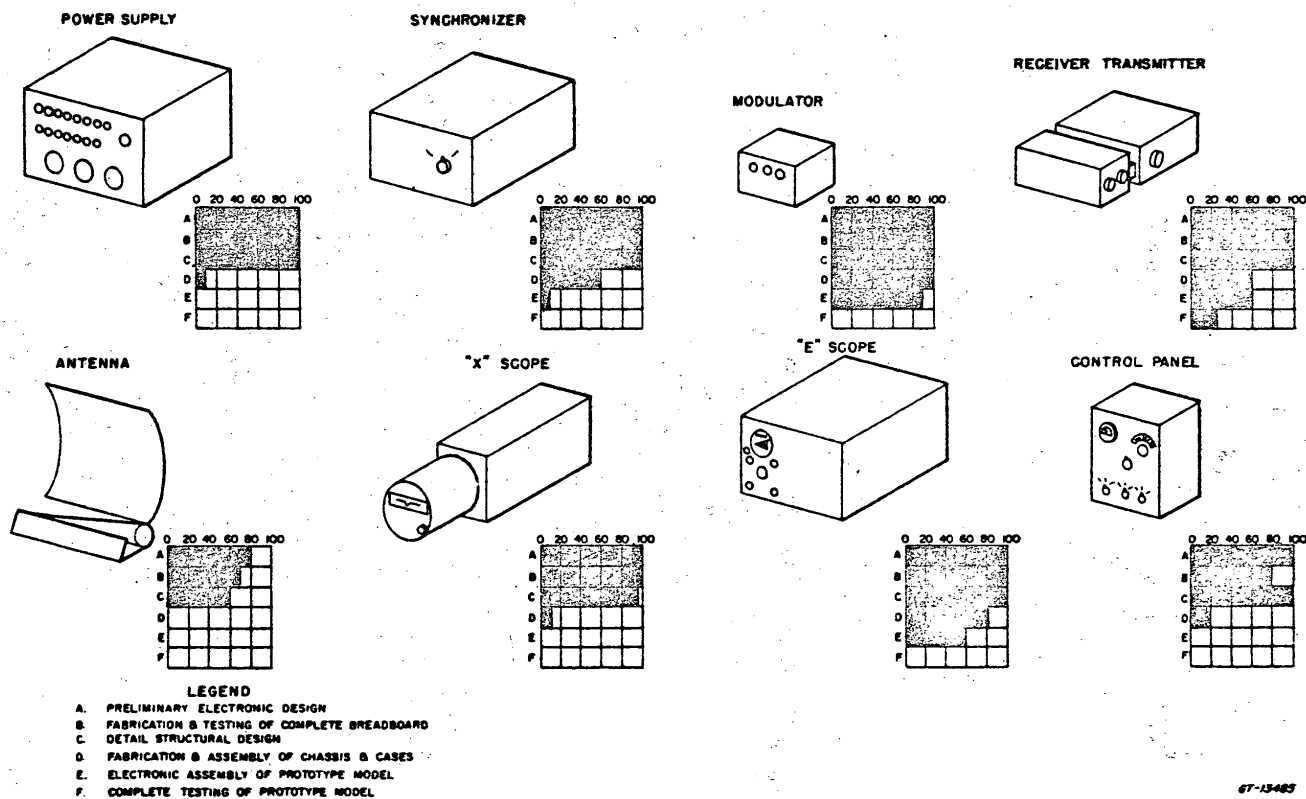
Thus the unique features of this antenna have been proven. That is, the practicability of an antenna which utilizes rotary motion to achieve a linear scan has been proven with a practical design that can be manufactured economically. This allows a sawtooth scan at higher rates than is practical with reciprocating motion and eliminates the massive structures, high drive power and excessive wear associated with such scanners.

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STATUS OF TERRAIN AVOIDANCE RADAR JAN 31, 1958



67-15487

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